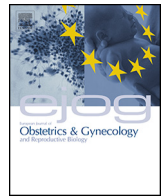




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Effects of isolation on mood and relationships in pregnant women during the covid-19 pandemic



Dear Editor,

We note that COVID-19 is a global public health emergency that has resulted in a significant psychological impact on the mental health of women during pregnancy [1]. There has been emerging evidence of further secondary morbidity associated with the pandemic with an increase in domestic violence associated with the strategies implemented to slow its spread, namely social isolation and lockdown [2]. There is a known increased risk of domestic violence in pregnancy [3]. We sought to assess the effects of lockdown on relationships and maternal mood.

We carried out a prospective study involving pregnant women attending for antenatal care in The Coombe Women and Infants University Hospital, a tertiary level maternity centre in Dublin.

Women in their second and third trimesters completed a questionnaire in the out-patient setting which was based on maternal mood during the lockdown phase of the COVID-19 pandemic, in addition to details of relationships between partners, family and friends during this time.

From 6th April to the 28th April 2020, 70 women completed the questionnaire (Table 1). This represented the latter period of “total lockdown” in Ireland with restrictions including an exercise limit of two kilometres from home and all other journeys outside to be made only for provision of essential services or to purchase essential goods.

Most women (67/70; 95.7 %) reported the relationship with their partner had not deteriorated over this time with 4.3 % (3/70) reporting a deterioration. Of this group, one woman thought of seeking help in the form of police action (33 %; 1/3). Of those whose relationships had not deteriorated, 34 % (23/67) have grown closer to their partners, with 21 % (14/67) exercising together, and 28 %

(19/67) undertaking shared tasks at home. 34 % (24/70) of women reported improving relationships with family and friends by communicating with them more frequently. However, 11 % (8/70) stated that there were tensions between family members/children who were also in isolation in the same household.

When questioned on mood, 44 % (31/70) reported low mood due to loneliness as they missed contact with friends and family. Anxiety was reported due to financial pressure due to being unable to work in 14 % (10/70). Positively, over one third of women (34 %; 24/70) said they were enjoying the lockdown and isolation as it was relaxing and a break from life's fast pace.

The arrival of the COVID-19 global pandemic posed many challenges for public health, one of these being disease containment. In Ireland, the government responded by imposing a lockdown. These measures, however, have impacted the mental health of pregnant women and their relationships with their partners, family members and friends.

Meta-analyses identified a significant association between social isolation and loneliness with increased morbidity and poor mental health outcomes [4]. Stress, loss of income and social isolation can exacerbate the risk of violence in the home [5]. Reports have been surfacing of increased incidence of domestic violence in countries across the world during lockdown. A study done in North England, showed the prevalence of domestic violence to be 17 % amongst pregnant women outside of the pandemic [3]. This trend has not been demonstrated in our obstetric population with 4.3 % reporting relationship deterioration with their partners and no women reporting physical violence. Instead, women recorded improving relationships with their partners by talking more, exercising together and sharing tasks.

This study provides insight into the effects of social isolation on the relationships of our obstetric cohort and its effect on their mental health. The lockdown has had both a positive and negative effect on women's mental health. The psychological implications of this cannot be ignored and management strategies to improve

Table 1

Responses from 70 pregnant women to a questionnaire on their mood and relationships whilst isolating due to Covid 19.

		% Positive	Yes	No	n
Mood	Low mood-lonely	44.3	31	39	70
	Low mood-reduced activity	38.6	27	43	70
	Sad-unable to see sick family members	18.6	13	57	70
	Anxious	14.3	10	60	70
	Enjoying slower pace of life	34.3	24	46	70
Relationships	Improving relationships with family and friends	34.3	24	46	70
	Tension between family members	11.4	8	62	70
	Relationship with partner deteriorated	4.3	3	67	70
Relationships with partner that had not deteriorated	Grown closer	34.3	23	44	67
	Exercised together	20.9	14	53	67
	Talked more	28.4	19	48	67
	Undertaken shared tasks	28.4	19	48	67
Relationship with partner deteriorated	Police action	33.3	1	2	3
	Seeking help	0	0	3	3
	Leaving home	0	0	3	3

mental health should be considered by policy makers when implementing a lockdown.

Financial disclaimers

None.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- [1] Corbett GA, Milne SJ, Hehir MP, Lindow SW, O'Connell MP. Health anxiety and behavioural changes of pregnant women during the COVID-19 pandemic. *Eur J Obstet Gynecol Reprod Biol* 2020.
- [2] Bradbury-Jones C, Isham L. The pandemic paradox: the consequences of COVID-19 on domestic violence. *J Clin Nurs* 2020.
- [3] Johnson J, Haider F, Ellis K, Hay D, Lindow S. The prevalence of domestic violence in pregnant women. *BJOG* 2003;110(3):272–5 [online].
- [4] Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N. and et al., 2017. An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Public Health*, 152, 157–171.
- [5] WHO Violence Against Women During COVID-19. [online] Who.int; 2020 [cited 2020 May 10th] Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/violence-against-women-during-covid-19>.

Sarah J. Milne*

Gillian A. Corbett

Mark P. Hehir

Stephen W. Lindow

Department of Obstetrics and Gynaecology, Coombe Women and Infants University Hospital, Cork Street, Merchants Quay, Dublin 8, D08 XW7X, Ireland

Suruchi Mohan

^b*Sidra Medicine, Doha, Qatar*

Shuja Reagu

Thomas Farrell

^c*Hamad Medical Corporation, Doha, Qatar*

Michael P O'Connell

Department of Obstetrics and Gynaecology, Coombe Women and Infants University Hospital, Cork Street, Merchants Quay, Dublin 8, D08 XW7X, Ireland

* Corresponding author.

E-mail address: sarah.milne@ucdconnect.ie (S. Milne).

Received 25 May 2020